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|  | **DRAFT PRELIMINARY VIEW FOR** **WRC-27 AGENDA ITEM 1.11** |  |
|  | **(Item on the Agenda: 3.1)** |  |
|  | **(Document submitted by the Delegation of the United States)** |  |

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**UNITED STATES OF AMERICA**

**DRAFT PRELIMINARY VIEWS ON WRC-27**

**AGENDA ITEM 1.11**: to consider the technical and operational issues, and regulatory provisions, for space-to-space links among non-geostationary and geostationary satellites in the frequency bands 1 518-1 544 MHz, 1 545-1 559 MHz, 1 610-1 645.5 MHz, 1 646.5-1 660 MHz, 1 670-1 675 MHz and 2 483.5-2 500 MHz allocated to the mobile-satellite service, in accordance with Resolution **249 (Rev.WRC 23)**;

**BACKGROUND:** WRC-27 is considering taking appropriate regulatory actions for the provision of space-to-space links among non-geostationary and geostationary satellites in the frequency bands 1 518-1 544 MHz, 1 545-1 559 MHz, 1 610-1 645.5 MHz, 1 646.5-1 660 MHz, 1 670-1 675 MHz and 2 483.5-2 500 MHz allocated to the mobile-satellite service to facilitate relaying data from non-geostationary (non-GSO) space stations through satellite systems or networks in the mobile-satellite service.

The landscape of satellite communications has seen a significant uptick in the deployment and operation of small non-geostationary (non-GSO) satellites, particularly those on short-duration missions (e.g. “cubesats”). Considering that many non-GSO small satellites and cubesats traditionally operate with limited and non-real-time connectivity to Earth stations, advancements have explored the potential for continuous access across their orbits, leveraging operating host non-GSO mobile-satellite service (MSS) systems. Concurrently, geostationary (GSO) MSS operators are also providing communications access to LEO satellites via space-to-space links.

The evolving regulatory landscape and the increasing deployment and operation of small non-geostationary (non-GSO) satellites reflect a collective move towards maximizing the utility of satellite networks, which is supported by WRC-27 AI 1.11 studies towards developing the necessary provisions to secure the regulatory recognition for such space-to-space operations while protecting incumbent services.

It is necessary to study the impact on, and to protect, other services, including Earth-to-space and space-to-Earth operation within the MSS, from the operation of space-to-space links in the frequency bands included under this agenda item, taking into account applicable footnotes to the Table of Frequency Allocations, to ensure compatibility with incumbent services in these frequency bands and the adjacent frequency bands and avoid harmful interference. Studies will need to be conducted on the technical and operational characteristics, and protection, sharing and potential compatibility between satellite-to-satellite links and the allocated primary services in the frequency ranges and adjacent bands specified in Resolution **249 (Rev. WRC-23)**. These studies are underway in the ITU.

In accordance with RR No. **5.344**, in the United States the band 1 452-1 525 MHz is allocated to the fixed and mobile services on a primary basis (see also No. **5.343**). RR No. **5.343** prescribes that “In Region 2, the use of the band 1 435-1 535 MHz by the aeronautical mobile service for telemetry has priority over other uses by the mobile service.” And RR **5.348B** provides that stations in the mobile-satellite service in 1518-1525 MHz not claim protection from aeronautical mobile telemetry stations in the territory of the United States. Table **21-4** in Article 21provides stringent power flux-density levels applied to the Mobile-satellite (space-to-Earth) operating in the band 1518-1525 MHz to ensure the protection of aeronautical mobile telemetry applicable to the territory of the United States in the band 1518-1525 MHz.

**U.S. VIEW:** The United States supports the consideration of appropriate technical and regulatory provisions at WRC-27 to address Resolution **249 (Rev. WRC-23)** and provide for accommodating space-to-space linksin the frequency bands 1 518-1 544 MHz, 1 545-1 559 MHz, 1 610-1 645.5 MHz, 1 646.5-1 660 MHz, 1 670-1 675 MHz and 2 483.5-2 500 MHz while ensuring the protection of, and without imposing additional regulatory or technical constraints on, incumbent services in these bands and adjacent frequency bands.

The United States is also of the view that the studies of space-to-space operations for consideration under this agenda item should be limited to links operating in the same direction of transmission as provided in the current allocations for the mobile-satellite service in the frequency bands under consideration. The U.S. is further of the view that the existing regulatory framework, including that set forth in Article 21 referenced above, and operational practices continue to govern transmissions for the downlink (space-to-Earth) direction, and should be appropriately applied to the space-to-space transmissions, thereby ensuring no additional interference or compatibility issues with incumbent service in the subject and adjacent bands.